



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,602	11/25/2003	Pawan Goyal	ARC920030077US1	5994
55508	7590	12/19/2007		
JOSEPH P. CURTIN, L.L.C. 1469 N.W. MORGAN LANE PORTLAND, OR 97229-5291			EXAMINER DAYE, CHELCIE L	
			ART UNIT 2161	PAPER NUMBER
			MAIL DATE 12/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/721,602

Applicant(s)

GOYAL, PAWAN

Examiner

Chelcie Daye

Art Unit

2161

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 29 November 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____.

/Sana AL-Hashemi/
 Primary Patent Examiner
 Art Unit 2164
 December 13, 2007

Continuation of 11. does NOT place the application in condition for allowance because:

Applicant argues, Yanai and Schomler does not teach, a sequential identification; asynchronously remotely copying each respective log record write from the primary site to the remote site; receiving an acknowledgement at the primary site, such that the acknowledgement corresponds to a log record write that has been completed at the remote site; and asynchronously remotely copying each data record write having a sequential identification that is only prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement.

Examiner respectfully disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The applicant's must take into account the features which were relied upon by the primary reference Yanai along with the secondary reference of Schomler. As such, the combination of Yanai and Schomler teach, "One well-known application-based recovery technique, used extensively in transaction processing systems, is to maintain a log file of all writes ("before" or "after" images) to a data file. To ensure recovery, data is always written to the log file before it is written to the data file. The log file may contain a number of different versions of data written to the same location or track in the dataset. At any given time, however, the data file contains only one version of the data at any given location or track. If the dataset volume were to become inaccessible, then recovery would consist of (1) restoring the most recent image copy of the data, and (2) applying all logs to that data, thus making the data current. If the log file volume were to become inaccessible, then recovery would consist of (1) allocating a new log file, and (2) taking a current copy of the image data. In a preferred implementation, as shown in FIG. 12, the application 291 maintains the log file on a remotely mirrored volume pair 291, 293 and the data file 292, 294 on a remotely mirrored volume pair 295, 296 in the data processing system 210. The degree of synchronization between the primary volumes 295 and secondary volumes 296 is selected to guarantee that new data is written to the secondary (R2) log file 293 before the new data is written to the secondary (R2) data file 294. Therefore, the "rolling disaster" scenario is avoided" (see column 32, lines 34-58, Yanai); and "However, a less restrictive method is for the application to synchronize the secondary (R2) log file volume 293 just before each transmission of new log file data from the application to the primary data storage system, and to synchronize the secondary (R2) data file volume just before each transmission of the new data file updates from the application to the primary data storage system 214. This less restrictive method ensures that cache overwrite cannot disrupt the sequencing of the log and data file updates in the FIFO link transmission queue" (see column 33, lines 1-10, Yanai). Also, "To perform asynchronous remote copying there are three requisites: (1) The sequence of data updates must be determinable at a local site. (2) That sequence must be communicable by the local site to a remote site. (3) The remote site must be able to use the sequence to control the updating at the remote site. DASD subsystems then monitor those extents for write activity, and notify a sequencing program service in the host system that a write operation is in progress by providing a DASD-information packet that describes the DASD track(s) and record(s) that are being written as well as a subsystem generated sequence number for the update. The sequencing program combines the DASD provided information packet with a time stamp of that write operation relative to all other write time stamps that are being duplexed within the cooperating set of systems. The subsystem will signal "operation complete" to the host that initiated the I/O write operation. The information packet is also sent to the secondary location via asynchronous message to provide advance information that the identified DASD will be updated... The secondary system queues the DASD update data as it is received; then it schedules I/O operations to update its shadow (duplex) data copies in the same sequence as they appeared at the primary systems... An essential component of such a system is that the same sequence of primary DASD subsystems be provided at the secondary location. The sequence order is achieved via a global event sequence log. The global event sequence log entries are created and sequenced as a result of the DASD subsystem initiated communication to the global sequencer for each data write operation" (see column 4, lines 10-67, Schomler); "When all data up to the point of the marker in the pending write queue ("A" in FIG. 6) has been secured, either in control info log (8) or on secondary copy DASD (9), the secondary copy process, identified as "Data Mover" in the figures, creates an acknowledgement message referencing the specific marker message token, and returns that message to the primary copy process 16'(10)" (see column 9, lines 33-39, Schomler); and "In this system, the remote copy system described may, as part of its normal operation, cause the secondary to send periodic and regular acknowledgement messages (ACKN) to the primary. These ACKNs identify the event number (sequence or clock time) for data and messages received from the primary, with each ACKN informing the primary that all events up to and including the event number given have been secured at the secondary. Such a stream of ACKN messages from a communications recipient (secondary) to a sender (primary) is usual and conventional in asynchronous telecommunications protocols" (see column 10, lines 34-45, Schomler). The sequencing of the FIFO feature along with the sequencing order within the log correspond to the sequential identification. Both Yanai and Schomler references are based upon the functionality of asynchronously remotely copying log record and data records from one site to another. Lastly, the use of acknowledgement messages (ACKN's), which is the acknowledgement of an update copy from the remote system to the primary, thereby disclosing the receiving of an acknowledgement. Further, since the ACKN's identify event numbers (i.e., sequence numbers, which corresponds to the sequential identification) for the data received up to and including (i.e., <=) the sequence number given, thus discloses a sequential id that is prior to or equal to (<=) the sequential id of the log record. As such, the combination of Yanai in view of Schomler do in fact teach the above-argued limitations.